

NATIONAL AUTOMOTIVE CENTER

ARC AUTOMOTIVE RESEARCH CENTER

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The ARC, established in 1994, is a consortium of eight universities that serves as the U.S. Army Center of Excellence for Advanced Automotive Technology, Research, and Modeling and Simulation. The center's universities include: University of Michigan, Clemson University, Oakland University, University of Alaska-Fairbanks, University of Iowa, University of Tennessee, University of Wisconsin-Madison and Wayne State University.

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A key goal of the research conducted at the ARC is to develop a distributed simulation and design environment for ground vehicles that allows simulation tasks to be tailored to required applications and design needs.

Researchers are working in five thrust areas:

- **Intelligent** Vehicle Dynamics, Control and Robotics
- **Human-Centered** Modeling and Simulation
- **High Performance** Structures and Materials
- **Advanced** and **Hybrid** Powertrains
- **Integrated** System Design and Simulation

ARC activities support:

- Vehicle design **objectives** of versatility, high mobility, modularity, and low cost;
- **Linkage** of automotive suppliers with OEMs and the military in product development; and
- **Education** of the highly qualified technical personnel necessary to design and support future vehicle products.

ARC research offers significant benefits to the Army. For example, the **ARC** has been able to advance the state of the Army's ground vehicle systems, improve the efficiency of vehicle design and the design review process, and maximize the use of advanced design and simulation software to lower development costs. Most importantly, the **ARC** has served as the catalyst between military and commercial ground vehicle OEMs and suppliers that has resulted in a synergistic approach to advancing simulation technology.

Critical to the success of the Center is the effective exchange of needs and findings, which is accomplished through the following joint efforts of government, industry, and the academic community:

- Each project has a team, or **Quad**, consisting of principal technical members from government, industry, faculty, and graduate students;
- **Advisory board meetings** with representatives from leading industrial organizations; and
- **Annual conferences** in May that provide an avenue to highlight the exchange of research advancements and stimulate ideas and future interest in meeting national challenges.



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